The Particle Model

Name: _____

Period: _____

In today's activity you will be exploring the nature of matter as it relates to describing it in terms of individual particles. We will focus on matter in three different states; solid, liquid, and gas. Be sure to focus on what the **particles** of matter are doing in each state and how changes in what they are doing occur.

- Go to the following website to complete this activity:

  http://www.bbc.co.uk/schools/ks3bitesize/science/

- Choose Chemical and material behaviour

- Choose The particle model (Revise)

As you work your way through this section answer the following questions;

Solids

List some examples of solid matter.

What characteristics do particles in a solid have?

-
-
-
-
-

Draw a diagram of the particles in a solid and **describe their motion.**

Do you think the forces holding the particles together are fairly strong, or very weak?

Properties of Solids

Property of Solid	Why they are like this:

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Image that everyone in the room (your classmates) are each a particle of matter. How could we as a class simulate a solid?

(HINT: Describe how we would move and line up next to each other.)

Liquids

List some examples of liquid matter.

Particles in liquids are:

-
-

Particles in a liquid can:

-

Draw a diagram of the particles in a liquid and **describe their motion.**

Do you think the forces of attraction between the particles in a liquid compared to those in a solid?

Properties of Liquids

Property of Liquids	Why they are like this:

Image that everyone in the room (your classmates) are each a particle of matter. How could we as a class simulate a Liquid?

(HINT: Describe how we would move and line up next to each other.)

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Gases

List some examples of gases.

The particles of a gas are:

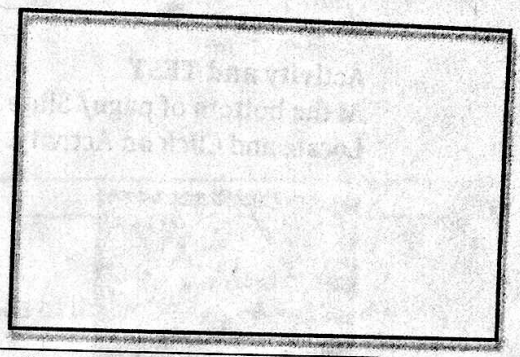
-
-

Particles in a gas can:

-

Draw a diagram of the particles in a gas and **describe their motion**.

The forces of attraction in a gas are very, very, weak. How does this weak attraction fit with the properties of a gas?



Properties of a Gas

Property of a gas	Why they are like this:

Image that everyone in the room (your classmates) are each a particle of matter. How could we as a class simulate a gas?

(HINT: Describe how we would move and line up next to each other.)

Flowing:

Explain how a particular state of matter can flow or not flow using the particle model of matter

Solid:

Liquid:

Gas:

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Checkpoint (Review):

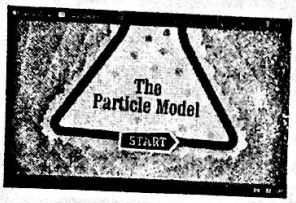
State	Solid	Liquid	Gas
Arrangement of particles			
Movement of particles			
Diagram			

Activity and TEST

At the bottom of page/ Slide #6
Locate and Click on Activity.

More from Particle model:

Activity **Test**



Watch it.
After you are done Click on Test.
Take it.
Click Check Score and record your score below:

The Particle Model Test: _____/7pts

- Go back to the Main page that we started on.
- Choose Chemical and material behaviour
- Choose Behaviour of Matter (Revise)
- Select Expansion and contraction

Expansion and Contraction

Briefly describe what happens to substances when they are heated and cooled.

Why do engineers have to take into account this property of matter when building a bridge?

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What do the particles do?

Briefly describe what the particles of a substance are doing when they expand and contract.

- The particles in a solid:
- The particles in a liquid:
- The particles in a gas:

Draw the particles of a solid in the boxes below when they are "cold" and "hot"...

Expansion in Solids:

"COLD"	**"HOT"**

Pressure in Gases:

Explain how a gas exerts pressure on the walls of the container it is in using the particle model.

(Using the particle model)

Explain why the pressure that a gas exerts in its container increases as it is heated.

Diffusion:

Give an example of diffusion:

How does the particle model for matter help us explain the phenomenon?

How does the rate of diffusion compare between solid, liquid, and gas?
(Explain this using the particle model!)

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Period: _____

Activity and TEST

At the bottom of page/ Slide #4
Locate and Click on Activity.

Watch it.
After you are done Click on Test.
Take it
Click  and record your score below:

The Behavior of matter Test: _____/5pts